

US EPA ARCHIVE DOCUMENT

10/19/2009

Mr. Doug Lam

Trihydro Corporation

5000 State Route 128

Cleves OH 45002

Project Name: Hooven VI 2008-2009

Project #: 500-016-012

Workorder #: 0910190C


Dear Mr. Doug Lam

The following report includes the data for the above referenced project for sample(s) received on 10/7/2009 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Bryanna Langley at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Bryanna Langley

Project Manager

**WORK ORDER #: 0910190C**

Work Order Summary

**CLIENT:** Mr. Doug Lam  
Trihydro Corporation  
5000 State Route 128  
Cleves, OH 45002

**BILL TO:** Mr. Paul Michalski  
Trihydro Corporation  
5000 State Route 128  
Cleves, OH 45002

**PHONE:** 513-353-1323 ext 23

**P.O. #** 08-050WO-L

**FAX:** 513-353-4664

**PROJECT #** 500-016-012 Hooven VI 2008-2009


**DATE RECEIVED:** 10/07/2009

**CONTACT:** Bryanna Langley

**DATE COMPLETED:** 10/19/2009

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VW96(5)-100209	Modified ASTM D-1946	2.5 "Hg	15 psi
01AA	VW96(5)-100209 Lab Duplicate	Modified ASTM D-1946	2.5 "Hg	15 psi
02A	VW96(10)-100109	Modified ASTM D-1946	3.5 "Hg	15 psi
03A	VW96(15)-100109	Modified ASTM D-1946	5.0 "Hg	15 psi
04A	VW96(20)-100109	Modified ASTM D-1946	4.5 "Hg	15 psi
05A	VW96(25)-100109	Modified ASTM D-1946	8.0 "Hg	15 psi
06A	VW96(30)-100109	Modified ASTM D-1946	3.0 "Hg	15 psi
07A	VW96(35)-100109	Modified ASTM D-1946	2.0 "Hg	15 psi
08A	VW96(40)-100109	Modified ASTM D-1946	1.5 "Hg	15 psi
09A	BD-2-100109	Modified ASTM D-1946	2.0 "Hg	15 psi
10A	VW96(45) 100209	Modified ASTM D-1946	2.5 "Hg	15 psi
11A	Lab Blank	Modified ASTM D-1946	NA	NA
11B	Lab Blank	Modified ASTM D-1946	NA	NA
12A	LCS	Modified ASTM D-1946	NA	NA

CERTIFIED BY:



Laboratory Director

DATE: 10/19/09

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004  
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,

Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/10

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**Modified ASTM D-1946**  
**Trihydro Corporation**  
**Workorder# 0910190C**

Ten 1 Liter Summa Canister (100% Certified) samples were received on October 07, 2009. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Since Nitrogen is used to pressurize samples, the reported Nitrogen values are calculated by adding all the sample components and subtracting from 100%.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>ASTM D-1946</i>	<i>ATL Modifications</i>
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a $\geq 95\%$ accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections $> 5 \times$ the RL.

### **Receiving Notes**

There were no receiving discrepancies.

### **Analytical Notes**

There were no analytical discrepancies.

### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

## Summary of Detected Compounds

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: VW96(5)-100209**

**Lab ID#: 0910190C-01A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	85
Methane	0.00022	2.7
Carbon Dioxide	0.022	11

**Client Sample ID: VW96(5)-100209 Lab Duplicate**

**Lab ID#: 0910190C-01AA**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.4
Nitrogen	0.22	85
Methane	0.00022	2.7
Carbon Dioxide	0.022	11

**Client Sample ID: VW96(10)-100109**

**Lab ID#: 0910190C-02A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	2.9
Nitrogen	0.23	82
Methane	0.00023	5.3
Carbon Dioxide	0.023	10
Ethane	0.0023	0.0025

**Client Sample ID: VW96(15)-100109**

**Lab ID#: 0910190C-03A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.5
Nitrogen	0.24	83
Methane	0.00024	4.8
Carbon Dioxide	0.024	11

## Summary of Detected Compounds

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: VW96(20)-100109**

**Lab ID#: 0910190C-04A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.24	1.4
Nitrogen	0.24	82
Methane	0.00024	6.5
Carbon Dioxide	0.024	10
Ethane	0.0024	0.0033

**Client Sample ID: VW96(25)-100109**

**Lab ID#: 0910190C-05A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.28	1.4
Nitrogen	0.28	76
Methane	0.00028	13
Carbon Dioxide	0.028	8.9
Ethane	0.0028	0.0065

**Client Sample ID: VW96(30)-100109**

**Lab ID#: 0910190C-06A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.22	1.3
Nitrogen	0.22	75
Methane	0.00022	14
Carbon Dioxide	0.022	9.7
Ethane	0.0022	0.0079

**Client Sample ID: VW96(35)-100109**

**Lab ID#: 0910190C-07A**

<b>Compound</b>	<b>Rpt. Limit (%)</b>	<b>Amount (%)</b>
Oxygen	0.22	1.3
Nitrogen	0.22	74
Methane	0.00022	15
Carbon Dioxide	0.022	9.7

## Summary of Detected Compounds

### NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

**Client Sample ID: VW96(35)-100109**

**Lab ID#: 0910190C-07A**

Ethane	0.0022	0.0084
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**Client Sample ID: VW96(40)-100109**

**Lab ID#: 0910190C-08A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	1.4
Nitrogen	0.21	72
Methane	0.00021	16
Carbon Dioxide	0.021	10
Ethane	0.0021	0.0088

**Client Sample ID: BD-2-100109**

**Lab ID#: 0910190C-09A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	74
Methane	0.00022	15
Carbon Dioxide	0.022	9.8
Ethane	0.0022	0.0083

**Client Sample ID: VW96(45) 100209**

**Lab ID#: 0910190C-10A**

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	70
Methane	0.00022	17
Carbon Dioxide	0.022	11
Ethane	0.0022	0.0097



Client Sample ID: VW96(5)-100209

Lab ID#: 0910190C-01A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101618	Date of Collection: 10/2/09 1:33:00 PM
Dil. Factor:	2.20	Date of Analysis: 10/16/09 02:58 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.5
Nitrogen	0.22	85
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	2.7
Carbon Dioxide	0.022	11
Ethane	0.0022	Not Detected
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(5)-100209 Lab Duplicate

Lab ID#: 0910190C-01AA

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101619	Date of Collection: 10/2/09 1:33:00 PM
Dil. Factor:	2.20	Date of Analysis: 10/16/09 03:19 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.4
Nitrogen	0.22	85
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	2.7
Carbon Dioxide	0.022	11
Ethane	0.0022	Not Detected
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(10)-100109

Lab ID#: 0910190C-02A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9101620	Date of Collection: 10/1/09 1:30:00 PM
Dil. Factor:	2.29	Date of Analysis: 10/16/09 03:42 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	2.9
Nitrogen	0.23	82
Carbon Monoxide	0.023	Not Detected
Methane	0.00023	5.3
Carbon Dioxide	0.023	10
Ethane	0.0023	0.0025
Ethene	0.0023	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(15)-100109

Lab ID#: 0910190C-03A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101621	Date of Collection: 10/1/09 2:05:00 PM
Dil. Factor:	2.42	Date of Analysis: 10/16/09 04:04 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.5
Nitrogen	0.24	83
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	4.8
Carbon Dioxide	0.024	11
Ethane	0.0024	Not Detected
Ethene	0.0024	Not Detected
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(20)-100109

Lab ID#: 0910190C-04A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101622	Date of Collection: 10/1/09 2:37:00 PM
Dil. Factor:	2.38	Date of Analysis: 10/16/09 04:26 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	1.4
Nitrogen	0.24	82
Carbon Monoxide	0.024	Not Detected
Methane	0.00024	6.5
Carbon Dioxide	0.024	10
Ethane	0.0024	0.0033
Ethene	0.0024	Not Detected
Helium	0.12	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(25)-100109

Lab ID#: 0910190C-05A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101623	Date of Collection: 10/1/09 3:25:00 PM
Dil. Factor:	2.76	Date of Analysis: 10/16/09 04:47 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.28	1.4
Nitrogen	0.28	76
Carbon Monoxide	0.028	Not Detected
Methane	0.00028	13
Carbon Dioxide	0.028	8.9
Ethane	0.0028	0.0065
Ethene	0.0028	Not Detected
Helium	0.14	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(30)-100109

Lab ID#: 0910190C-06A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101624	Date of Collection: 10/1/09 4:12:00 PM
Dil. Factor:	2.24	Date of Analysis: 10/16/09 05:09 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.3
Nitrogen	0.22	75
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	14
Carbon Dioxide	0.022	9.7
Ethane	0.0022	0.0079
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(35)-100109

Lab ID#: 0910190C-07A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101625	Date of Collection: 10/1/09 4:54:00 PM
Dil. Factor:	2.16	Date of Analysis: 10/16/09 05:30 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.3
Nitrogen	0.22	74
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	15
Carbon Dioxide	0.022	9.7
Ethane	0.0022	0.0084
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)



Client Sample ID: VW96(40)-100109

Lab ID#: 0910190C-08A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101626	Date of Collection: 10/1/09
Dil. Factor:	2.13	Date of Analysis: 10/16/09 05:51 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.21	1.4
Nitrogen	0.21	72
Carbon Monoxide	0.021	Not Detected
Methane	0.00021	16
Carbon Dioxide	0.021	10
Ethane	0.0021	0.0088
Ethene	0.0021	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: BD-2-100109

Lab ID#: 0910190C-09A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101627	Date of Collection: 10/1/09
Dil. Factor:	2.16	Date of Analysis: 10/16/09 06:15 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	74
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	15
Carbon Dioxide	0.022	9.8
Ethane	0.0022	0.0083
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: VW96(45) 100209

Lab ID#: 0910190C-10A

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name:	9101628	Date of Collection: 10/2/09 10:35:00 AM
Dil. Factor:	2.20	Date of Analysis: 10/16/09 06:36 PM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	1.2
Nitrogen	0.22	70
Carbon Monoxide	0.022	Not Detected
Methane	0.00022	17
Carbon Dioxide	0.022	11
Ethane	0.0022	0.0097
Ethene	0.0022	Not Detected
Helium	0.11	Not Detected

Container Type: 1 Liter Summa Canister (100% Certified)

Client Sample ID: Lab Blank

Lab ID#: 0910190C-11A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name:	9101605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/16/09 09:03 AM

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Nitrogen	0.10	Not Detected
Carbon Monoxide	0.010	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected
Ethane	0.0010	Not Detected
Ethene	0.0010	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: Lab Blank

Lab ID#: 0910190C-11B

**NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946**

File Name: 9101604b  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 10/16/09 08:38 AM

Compound	Rpt. Limit (%)	Amount (%)
Helium	0.050	Not Detected

Container Type: NA - Not Applicable

Client Sample ID: LCS

Lab ID#: 0910190C-12A

NATURAL GAS ANALYSIS BY MODIFIED ASTM D-1946

File Name: 9101639  
Dil. Factor: 1.00

Date of Collection: NA  
Date of Analysis: 10/16/09 10:43 PM

Compound	%Recovery
Oxygen	99
Nitrogen	98
Carbon Monoxide	100
Methane	99
Carbon Dioxide	100
Ethane	98
Ethene	98
Helium	104

Container Type: NA - Not Applicable